REMARKS

Information Disclosure Statement

In the copy of the form PTO/SB/08, listing the references cited in applicants' Information Disclosure Statement filed October 17, 2005, the last three references were crossed out. However, no explanation was given as to why these references were crossed out.

These three references were all cited in the International Search Report. A copy of the International Search Report (ISR), which was in the English language and which pointed out relevant sections of the disclosures of the references, was provided with the Information Disclosure Statement filed October 17, 2005. Thus, there is no reason why these three references were not considered.

For the Examiner's convenience, attached is a form PTO/SB/08, listing the three references in question, as well as additional copies of the references. Applicants respectfully request that the Examiner initial the form PTO/SB/08 and send applicants a copy of the initialed form with the next Office Action

Amendments

Claim 1 is amended to recite that the pigment particles with silver oxide are prepared by agitating the suspension at a temperature of 10 - 60°C. See, e.g., page 12, lines 15-18. Claim 1 is also amended to expressly recite that the formulation comprises and one or more cosmetically or dermatologically suitable vehicles. See, e.g., page 60, lines 23-28. Claim 29 is amended to be consistent with claim 1.

Claim 5-7, 9, 17, 20-22, and 33 are amended to correct errors in grammar and/or punctuation, and/or to use language in accordance with conventional US practice.

New claims 34-44 are directed to further aspects of applicants' invention and are supported throughout the disclosure. See, e.g., page 12, lines 15 – page 13, line 9, page 17, line 28 – page 18, line 2, and page 18, lines 26-30.

Restriction and Withdrawn Claims

Applicants previously argued that that Groups I, II, and III, drawn to formulations, methods of preparing same, and methods of using same, respectively, do relate to a single general inventive, pursuant to PCT rule 13.2, as described in sections (d) and (e)(i)of Annex B (Unity of Invention) of the Administrative Instruction under the PCT.

The Examiner argues that the claims lack unity of invention under PCT Rule 13.1. However, this argument fails to take into consideration that **certain combinations of categories of claims are construed as permissible under unity of invention as set forth in PCT Rule 13.2**. See section (d) Annex B of the Administrative Instructions under the PCT which states that there are three particular situations for which the method of determining unity of invention under Rule 13.2 is described in greater detail. Thus, this section of Annex (B) further defines when unity of invention will exist under Rule 13.2. In particular, section (e)(i) of Annex states that an independent product claim, an independent process claim specially adapted to manufacture the product, and an independent claim for use of the product is a permissible combination and **will be construed as in compliance with the unity of invention requirement under PCT Rule 13.2.**

Thus, Rule 13.2 does not require a "special technical feature" for certain combinations of categories of claims. Moreover, 37 CFR 1.475(b), reproduced below, is in accordance with the special combinations of claims described in Annex B. Thus, this rule further indicates that applicants' claims do have unity of invention:

> (b) An international or a national stage application containing claims to different categories of invention will be considered to have unity of invention if the claims are drawn only to one of the following combinations of categories:
> (1) A product and a process specially adapted for the manufacture of said product; or
> (2) A product and process of use of said product; or
> (3) A product, a process specially adapted for the manufacture of the said product, and a use of the said product; or
> (4) A process and an apparatus or means specifically designed for carrying out the said process; or
> (5) A product, a process specially adapted for the manufacture of the said product, and an apparatus or means specifically designed for carrying out the said process.

Thus, contrary to the assertion in the Restriction, applicants' claims have unity of invention under PCT Rule 13.2 and 37 CFR 1.475. Withdrawal of the Restriction is respectfully requested.

In any event, upon determination that the composition claims are allowable, applicants request rejoinder of the withdrawn claims pursuant to MPEP 821.04(b).

Objection to the Specification

The specification is amended to correct the obvious typographical error in the statement of priority benefit. Withdrawal of the objection is respectfully requested.

Objection to the Claims

The objections to the claims are eliminated by the amendments to the claims. With regards to the Markush language, there is no requirement under any statute or rule that Markush groups must be recited in "selected from the group consisting of" language. See also MPEP §2173.05(h) which indicates that language such as "R is A, B, C or D" is also acceptable.

Rejection under 35 USC § 112, second paragraph

Claims 5 and 33 are amended to delete reference to derivatives and functional groups. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC § 103(a) in view of Seo et al., Seo et al., Iler et al., and Aleksandrov et al.

Claims 1 and 6-18 are rejected as allegedly being obvious in view of Seo et al. (US 6,030,627), in combination with the article by Seo et al., Iler et al. (US 2,885,366), and Aleksandrov et al. This rejection is respectfully traversed.

Seo et al. (US '627) disclose an antimicrobial pigment obtained by preparing an amorphous glassy coating layer of metal oxides on the surface of a cosmetic pigment and then intercalating antimicrobial silver, copper, or zinc in the lattice structure of the amorphous glassy coating layer. See, e.g., column 3, lines 16-26. See also the discussion of EP 0 665 004 at page 1, line 25 – page 2, line 2 of applicants' specification.

To intercalate the silver, copper, or zinc into the lattice structure of metal oxide amorphous glassy coating layer, the antimicrobial metals can be added during the dry milling or heating steps used to form the metal oxide coating layer. Alternatively, the antimicrobial metals are added in the form of aqueous salt during the wet milling step. See column 7, lines 10-23. Intercalation is achieved by roasting and/or sintering at high temperatures, for example 300- 1200°C. See column 7, line 26, column 7, line 34, column 7, lines 55-56, and column 8, lines 4-6. See also the Examples.

The article by Seo et al. (Cosmetics and Toiletries) similarly describes the preparation of an antimicrobial inorganic pigment wherein a mica/titanium oxide pigment base is provided with an amorphous metal oxide coating which is then sprayed with an aqueous solution of silver nitrate and sintered at 825°C for 3 hours "after which the metal oxide had formed a firmly coated layer that was amorphous like glass and held the metallic silver in a crystal lattice." See page 4. Seo et al. had determined by experiments that antimicrobial inorganic pigment produced by sintering at 825°C for 3 hours "had the highest stability, safety, and antimicrobial activity." See page 85.

Neither Seo et al. reference discloses or suggests obtaining an antimicrobial inorganic pigment by agitating a suspension comprising one or more inorganic pigments and silver oxide. Moreover, in light of the required roasting/sintering of the Seo et al. process, neither Seo et al. reference discloses or suggests preparing antimicrobial pigment particles with silver oxide at a temperature of 10 - 60°C.

Iler et al. (US 2,885,366) disclose a product comprising a solid core material, not made of silica, and a skin of amorphous silica. The core can be made of a variety of materials including forms of mica, metal oxides, metal silicates, kaolin, fibreglass, rockwool, cellulose, and nylon. See, e.g., column 2, line 62 – column 3, line 61.

The skin is made of amorphous silica which is dense, which means that the skin is not porous. See column 4, lines 31-44. The skin is applied to the core by suspending the core in water, adding active silica, and maintaining a pH between 8 and 11. See column 6, lines 45-53.

In the rejection, it is stated that the disclosure of Iler et al. is relied on to show that products with an amorphous silica coating tend to form a shape in accordance with the shapes recited in applicants' claim 6, particularly a spherical shape. However, this is not what Iler et al. disclose. Instead, Iler et al. disclose that their products tend to form the shape of the original core material. See column 1, lines 17-20, and lines 65-67. See also Figures 1-3 wherein the cores are in the shapes of a sphere, a fiber, and a plate, respectively, and the resultant products are in the shapes of a sphere, a fiber, and a plate, respectively.

In any event, Iler et al. provide no disclosure regarding antimicrobial pigments, as is acknowledged in the rejection. Thus, one skilled in the art presented with the Iler et al. disclosure would not find it obvious to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in

accordance with applicants' claimed invention.

As for the article by Aleksandrov et al. this disclosure has nothing to do with pigments, antimicrobial or otherwise. The Aleksandrov et al. disclosure relates to the use of mica as a solid-state track detector, particularly for in metrological instruments. The article specifically examines the "registration efficiency" of synthetic and natural mica. Aleksandrov et al. disclose that the registration efficiency is an important characteristic with respect to the use of mica as a solid-state track detector.

The rejection asserts that Aleksandrov et al. suggest that synthetic mica and natural mica are equivalents. Even if correct, such equivalence would only relate to the use of mica as a solid-state track detector. Aleksandrov et al. is completely devoid of any disclosure regarding mica as a pigment substrate, let alone whether different forms of mica are equivalent when used as a pigment substrate.

In any event, as with the disclosure of Iler et al., the Aleksandrov et al. disclosure is devoid of any mention of antimicrobial pigments. Thus, one skilled in the art presented with the Aleksandrov et al. disclosure would not find it obvious to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in accordance with applicants' claimed invention.

In view of the above remarks, it is respectfully submitted that the disclosure of Seo et al. (US '627), taken alone or in combination with the article by Seo et al., Iler et al. (US'396), and/or the article by Aleksandrov et al., fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Rejection under 35 USC § 103(a) in view of Seo et al., Seo et al., Iler et al., Aleksandrov et al., Vollhardt, Lee et al., Wallace, De Tommaso, and Scott et al.

Claims 2-5, 19-28, and 33 are rejected as allegedly being obvious in view of Seo et al. (US 6,030,627), the article by Seo et al., Iler et al. (US 2,885,366), Aleksandrov et al., Vollhardt (US 6,274,124), Lee et al. (US 7,250,174), the article by Wallace, De Tommaso (WO 2002/04212), and Scott et al. (US 6,482,397). This rejection is respectfully traversed.

Seo et al. (US 6,030,627), the article by Seo et al., Iler et al. (US 2,885,366), and the article by Aleksandrov et al. are discussed above.

Vollhardt disclose a cosmetic or dermatological formulation for topical application to the skin that comprises at least one cosmetic and/or dermatological active agent and an

acceptable carrier, wherein the addition of 1,2-pentanediol improves the water resistance of the formulation. See column 3, lines 26-32.

Vollhardt further disclose that the formulation can also contain organic UV filter substances, antioxidants, and/or inorganic pigments. Vollhardt disclose oxides of titanium, zinc, iron, zirconium, silicon, manganese, aluminum, cerium and mixtures thereof as inorganic pigments. See column 2, lines 16-18, and column 4, lines 36-41.

In terms of as cosmetic and/or dermatologically active agent disclose antioxidants, anti-inflammatory compounds, anti-microbial compounds ("like Farnesol, Triclosan, and mixtures thereof"), antiperspirants, fragrance compounds, and skin whitening compounds. See column 4, line 50 – column 6, line 54.

Vollhardt's disclosure is devoid of any mention of antimicrobial pigments. Thus, one skilled in the art presented with the Vollhardt disclosure would not find it obvious to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in accordance with applicants' claimed invention.

Lee et al. (US '174) disclose using bioactive glass in cosmetics to provide a beneficial preservative effect. The disclosed bioactive glass compositions may comprise metal ions such as $AgNO_3$, CuO, and ZnO, or other antimicrobial salts. See, e.g., column 49 – column 2, line 67. Lee et al. disclose that the bioactive glass can act as a pigment, and that formulations in accordance with the disclosure can contain pigments. See, e.g., column 16, lines 56-62 and column 51, line 65 – column 52, line 7.

Lee et al., however, provide no suggestion to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in accordance with applicants' claimed invention.

Wallace discloses that it is known to use radio-labeled proteins as substrates for the study of microorganisms. However, while a protein substrate may support the study of microorganisms, there is no suggestion by Wallace that providing a protein in a cosmetic composition will attract microorganisms. In any event, nothing within the rejection provides any rationale as to why on skilled in the cosmetic art seeking to modify a cosmetic formulation would look to references in the vastly different and completely non-analogous art of providing studying the proteolytic hydrolysis of protein substrates by rumen microorganisms.

De Tommaso disclose an anhydrous pharmaceutical composition comprising vancomycin. As disclosed by De Tommaso, vancomycin is an antibiotic having broad

spectrum antimicrobial activity. See page 1, lines 4-8. De Tommaso, however, provides no suggestion to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in accordance with applicants' claimed invention.

Scott et al. (US '397) disclose a cosmetic compositions containing: (a) an artificial tanning effective amount of a self tanning agent (such as DHA, i.e., dihydroxyacetone); (b) a composition coloring agent; and, (c) a cosmetically acceptable carrier adapted for topical application to human skin. The composition may also contain antimicrobial agents and preservatives such as: benzalkonium chloride, benzoic acid, benzyl alcohol, butylparaben, chlorbutanol, ethyl paraben, methyl paraben, parahydroxybenzoic acid alkyl esters, phenylethyl alcohol, phenyl mercuric acetate, potassium sorbate, proprionate salts, propylparaben, sodium benzoate, sodium dehydroacetate and sorbic acid. See column 4, lines 63 – column 5, lines 5.

The Scott et al. disclosure is devoid of any mention of antimicrobial pigments. Thus, one skilled in the art presented with the Scott et al. disclosure would not find it obvious to modify the processes for making antimicrobial inorganic pigment, as described by the Seo et al. references, so as to arrive at a pigment in accordance with applicants' claimed invention.

In view of the above remarks, it is respectfully submitted that the disclosure of Seo et al. (US '627), taken alone or in combination with the article by Seo et al., Iler et al. (US'396), the article by Aleksandrov et al., Vollhardt (US '124), Lee et al. (US '174), the article by Wallace, De Tommaso (WO '212), and/or Scott et al. (US '397), fails to render obvious applicants' claimed invention. Withdrawal of the rejection is respectfully requested.

Obviousness-type Double Patenting Rejection in view of 10/553,668 and Park et al.

Claims 1-28 and 33 are rejected as being obvious in view of claims 1-16 of Serial No. 10/553,668 in combination with Park et al. (US 6,372,236).

The present rejection is a provisional rejection, since allowable subject matter has not been indicated in either Serial No. 10/553,668 or the instant application. Upon determination of allowable subject matter in Serial No. 10/553,668, applicants will file a Terminal Disclaimer.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

/Brion P. Heaney/

Brion P. Heaney (Reg. No. 32,542)
Attorney for Applicants

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.
Arlington Courthouse Plaza I
2200 Clarendon Boulevard, Suite 1400
Arlington, Virginia 22201
Direct Dial: 703-812-5308
Facsimile: 703-243-6410
Internet Address: heaney@mwzb.com

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